

WHAT IS CLAIMED IS:

1. An inverted microscope system comprising:

a microscope main body having an objective lens opposed to a sample, a primary image forming optical system which forms an intermediate image of the sample in cooperation with the objective lens, and focusing means for changing a relative distance between the sample and the objective lens and forming the intermediate image of the sample at a predetermined position;

illumination means which is detachable with respect to the microscope main body, for generating illumination light to the sample; and

an additional unit which is detachable with respect to the microscope main body and includes an observation tube to observe the intermediate image of the sample.

2. The inverted microscope system according to claim 1, wherein the additional unit having a relay optical system to relay the intermediate image of the sample to the observation tube.

3. The inverted microscope system according to claim 2, wherein the additional unit further comprising an optical element which takes out a part of a beam of the intermediate image of the sample relayed by the relay optical system, and a port to which image pickup means is attached, the image pickup means picking up a

10001014.050502

sample image taken out via the optical element.

4. The inverted microscope system according to
claim 3, wherein the microscope main body further
comprising an optical element which reflects
5 observation light from the sample outgoing from the
objective lens in any one of an obliquely upward
direction and a horizontal direction, and the
intermediate image being formed on an optical path of
the light reflected by the optical element.

10 5. The inverted microscope system according to
claim 4, wherein the additional unit having a relay
optical system to relay the intermediate image of the
sample to the observation tube.

15 6. The inverted microscope system according to
claim 5, wherein the additional unit further comprising
an optical element which takes out a part of a beam of
the intermediate image of the sample relayed by the
relay optical system, and a port to which image pickup
means is attached, the image pickup means picking up a
20 sample image taken out via the optical element.

7. The inverted microscope system according to
claim 2, wherein the optical element including a first
optical element which reflects a beam from the
objective lens obliquely upward, and a second optical
25 element which reflects the light in a substantially
horizontal direction,

any one of the first optical element and the

1000191476050

second optical element being selectively attached to the microscope main body.

8. The inverted microscope system according to claim 7, wherein the additional unit having a relay optical system to relay the intermediate image of the sample to the tube.

9. The inverted microscope system according to claim 9, wherein the additional unit further comprising an optical element which takes out a part of a beam of the intermediate image of the sample relayed by the relay optical system, and a port to which image pickup means is attached, the image pickup means picking up a sample image taken out via the optical element.

10. The inverted microscope system according to claim 2, wherein the optical element having a variable reflection angle.

11. The inverted microscope system according to claim 10, wherein the additional unit having a relay optical system to relay the intermediate image of the sample to the observation tube.

12. The inverted microscope system according to claim 11, wherein the additional unit further comprising an optical element which takes out a part of a beam of the intermediate image of the sample relayed by the relay optical system, and a port to which image pickup means is attached, the image pickup means picking up a sample image taken out via the optical

200000-100000

element.

13. The inverted microscope system according to claim 2, wherein the optical element being detachable.

14. The inverted microscope system according to
5 claim 13, wherein the additional unit having a relay
optical system to relay the intermediate image of the
sample to the observation tube.

15. The inverted microscope system according to
claim 14, wherein the additional unit further
10 comprising an optical element which takes out a part of
a beam of the intermediate image of the sample relayed
by the relay optical system, and a port to which image
pickup means is attached, the image pickup means
picking up a sample image taken out via the optical
15 element.

卷之三